Electronic Records Retention:

Fourteen Basic Principles

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AT THE CORE

THIS ARTICLE EXAMINES:

- how electronic records have transformed the nature of information management
- the translation of traditional records retention principles for visible media to electronic recordkeeping environments
- a practical methodology for developing electronic records retention schedules

omputers, and the information technology revolution they have spawned, are literally transforming the nature of the economy, in this country and throughout the world (Mandal 1994). The computer industry is not quite the world's largest industry (the petroleum and

automotive industries are somewhat larger), but according to many observers, it is the world's most important industry "because of its power to transform the way people work" (Sherman 1993). Moreover, the overriding importance of the computer industry and its transforming impact on the economy can be seen in the following statistic: In 1991, for the first time in history, U.S. businesses spent more money on computers and communications equipment than on all other capital equipment combined (Mandai 1994).

If business computing has transformed the nature of the economy and of work itself, it has certainly transformed the nature of business recordkeeping. This transformation is fundamental to the very nature of information and its use in the conduct of business. We are witnessing

epochal changes in records *media* as well as in the quantity and value of business records. Each of these changes is having a profound effect on both the theory and practice of the discipline of records management, including records retention.

Electronic recordkeeping systems require functionality for the automatic migration of documents and data from costly, online media to secondary, less expensive media, based on declining usage as they make their life cycle transition toward inactive status. Moreover, these systems require functionality for the automatic deletion of expired electronic records at the conclusion of their life cycle. Finally, these systems require functionality for the permanent retention of electronic records possessing archival value. These functional requirements constitute the essence of electronic records retention, and records managers who can develop this functionality in the electronic recordkeeping systems of

Editor's Note: The following is an excerpt from David Stephens' and Rod Wallace's Electronic Records Retention: An Introduction (1997), which is available from ARMA International at www.arma.org.

14 Principles of Electronic Records Retention

- 1. Understand the essence of electronic records retention.
- 2. Collect appropriate data that describe existing computer applications.
- 3. Apply the records series concept to electronic records.
- 4. Conduct interviews with applications developers and end users.
- 5. Solicit data from applications developers by questionnaire.
- 6. Determine retention periods based on conceptually sound methodology.
- 7. Construct "total life cycle" retention periods.
- 8. Determine the total retention based on access requirements.
- Determine whether data migration and deletion occur automatically.
- Determine the need for consistent retention periods where redundant data exist on multiple media.
- 11. Be highly selective about appraising electronic records as "permanent."
- Use COM or COLD solutions for lengthy retention requirements.
- 13. Retain E-mail under stringent records management controls.
- 14. Retain PC-based electronic records based on official records status.

the future should themselves enjoy a good future.

A successful future for records management also requires a much closer relationship between records managers and computer systems specialists in information systems (IS) departments than has hitherto occurred. One of the best ways of accomplishing a closer relationship is for records managers to work with IS personnel to develop and implement strategies for purging useless electronic documents and data from computer systems, or for assuring their long-term preservation if required.

The following 14 basic principles for scheduling electronic records for retention and disposition provide a *translation* of the traditional principles associated with records retention from visible media to electronic recordkeeping environments. These

basic principles are designed to provide records managers with a foundation of knowledge and a practical methodology for developing electronic records retention schedules.

Principle No. 1: Understand the Essence of Electronic Records Retention

Electronic records retention is the act of retaining computer-based records in digital storage media for specified, predetermined periods of time commensurate with their value, with subsequent disposal or permanent preservation as a matter of official organizational policy. To expand on this definition, an electronic records retention program is that component of an organization's larger records management program that provides policies and procedures specifying the length of time that computer-based records must

be maintained. An organization's official policy for electronic records retention is normally expressed in the form of an electronic records retention schedule, with supporting procedures to facilitate its implementation. Finally, this program provides for the *systematic destruction* of electronic records that no longer serve any useful purpose and the *continued retention* of digital documents and data that do possess ongoing value. Some of the key points in these definitions are further developed in the following paragraphs.

Integrating Electronic Records within an Organization's Retention Program

An unknown but significant percentage of computer-based records are also retained on non-digital media (e.g., paper and microfilm). Determining whether and how records residing on various storage media are incorporated into an organization's retention program and how "multimedia" retention schedules can be formatted involves three main options:

- Develop "media specific" retention schedules separate schedules for electronic records as well as for records on visible media.
- 2. Develop "media independent" retention schedules – schedules that list various records series, without reference to storage media, as the records in a given series may, in fact, reside on several media simultaneously or during various stages of their life cycle.
- Develop "multimedia" retention schedules that contain all media, with separate retention periods for the information resident on each media.

Although our main concern here is to establish retention policies for the electronic versions of records, one of a records manager's prime goals should be to develop a multimedia records retention program, one that provides appropriate retention policies for all recorded information, regardless of storage media. Several of the 14 basic principles are relevant to this issue. See particularly "Principle No. 10: Determine the Need for Consistent Retention Periods Where Redundant Data Exist on Multiple Media."

Establishing Electronic Records Retention Policies and Procedures for Systematic Disposition of Digital Data

When acts to dispose of electronic records occur in the absence of established policies and procedures, they are inherently arbitrary in nature. From a legal point of view, actions to destroy electronic records are much easier to defend if they have occurred under an approved organizational policy. Why? Because if the motivation for the disposal ever becomes an issue before legal authorities, management can justify acts of disposal as having occurred systematically, in the routine course of business, rather than at the whim of employees (Robek 1995).

The methodology for retention scheduling of electronic records is very similar to that employed for visible records media. The records manager must first identity a body of digital information, however large or small, that needs a *separate retention period* to provide proper instructions to govern its disposition. Then, the records manager must decide *how long* to retain the records. Finally, the records manager must express the

retention periods in a manner that makes implementing them practical. This process is the essence of electronic records retention.

Principle No. 2: Collect Appropriate Data that Describe Existing Computer Applications

To schedule electronic records for retention, the records manager must first collect appropriate data that describe the organization's computer applications and the records they contain. The best place to start is by gathering data describing the organization's structured data, which are normally contained in applications residing in mainframe and local area network computing environments. These data tend to be highly organized and subject to rigid management controls; thus descriptive information at the application level can usually be obtained from systems specialists in the information systems (IS) department.

For all mainframe and client/ server-based electronic records, the records manager must see the appropriate managers in the IS department to collect descriptive data concerning the applications they manage. The following steps are recommended:

1. Solicit the cooperation of the IS department. Electronic records retention projects cannot be accomplished without the cooperation of the IS department. A high level of cooperation is essential at every step in the process, from identifying the electronic records that must be scheduled, developing the retention policies, and finally to implementing the policies by purging the records or preserving them, as provided by the retention schedules.

- 2. Assemble general descriptions of all applications. Descriptive data must include the business purpose(s) served by the applications and the data that comprise them. These descriptions should show, in some detail, the content and structure of the data contained in each application. IS departments generally have this type of information readily available in some form. Usually, creating special descriptions for the applications these departments manage will not be necessary.
- 3. Gather lists and descriptions of system outputs. IS departments nearly always maintain listings of reports (hard copy and/or microfiche) generated by the applications they manage. These reports can be very helpful in identifying and analyzing all applications that need to be scheduled. Moreover, such listings are essential in ensuring that an organization's retention schedules provide complete coverage of visible records media.
- 4. Obtain lists and descriptions of tape generation and data backup methodologies. IS departments also have this information on hand. This information is essential in developing the electronic retention schedule because tape media contain most of the organization's archival data at the end of its life cycle data that will be subject to purge routines or preservation actions as reflected by the retention periods.
- 5. Compile lists of end users and applications developers. For each application, the records manager should obtain the name(s) of the end user having primary

responsibility for the data for business purposes. This person(s) will usually be a manager of some operating department of the organization. Further, the records manager must obtain the name of the applications development specialist (usually assigned to the IS department) who developed the application. As discussed next, the records manager will need to conduct interviews with these persons.

Principle No. 3: Apply the Records Series Concept to Electronic Records

In scheduling electronic records for retention, the records manager must identify a body of digital information, however large or small, that needs a separate retention period to provide proper instructions to govern its disposition. This very important task requires applying the records series concept to electronic records, an essential component in developing good electronic retention schedules.

A separate retention period must be established for each electronic records series, just as such periods must be developed for each records series residing on visible media. An electronic records series is defined as a separate, discrete body of computer data (text files, data files, or image files) that is maintained within a computer system, application, or database, which data is logically related, serves a common purpose or function, and can thus be considered as a separate unit for purposes of developing an electronic records retention schedule.

Depending on the size and structural complexity of the data, a single computer application may consist of one, several, or many electronic records series, each with separate retention periods, to provide proper instructions to govern the disposition of the data. For some system applications, a single series may cover an entire application such as in cases where a single retention period is sufficient to provide for the disposition of all the application data. For other applications, several or many series may be defined at the subapplication level, with different retention periods for each series. However, electronic records series are rarely defined below the subapplication level – at the data set level – as these bodies of data are generally too small to make establishing a single retention period feasible for each of them.

As used here, data set is defined to mean a separate, discrete body of computer data that is logically related, serves a common purpose or function, and thus can be considered as a separate unit for analysis. This definition is very similar to the one for an electronic records series. However, for our purposes here, the salient point is: At what level of the system application does a body of computer data exist that needs a separate retention period to govern its disposition? Although this decision is judgmental and should be made by the records manager in consultation with application developers and data owners, the establishment of one or several retention periods for the entire application will usually be sufficient.

Principle No. 4: Conduct Interviews with Applications Developers and End Users

To develop high-quality retention schedules for electronic records, the

records manager must conduct interviews with applications developers and end users. Applications development specialists generally possess valuable knowledge for the schedule development process because they are most familiar with the *structure of application data*, the various levels of the hierarchy of data contained within the structure of the application.

End users (managers or technical specialists from operating departments) also possess valuable knowledge for developing electronic retention schedules because they are very familiar with the content of the information contained in the application, its business value, and when this value expires or declines to a sufficient degree that disposal can be contemplated. When both these areas of expertise are combined with the records manager's retention knowledge, the records manager can develop good preliminary retention periods for each electronic records series.

Thus, the objectives of these interviews are to

- discuss the structure of the data contained in each application and define the electronic records series the separate bodies of data that require a separate retention period to provide for the retention and disposition of the data
- discuss the business value of the data contained in each electronic records series and solicit an opinion as to how long it should be retained to meet the operational needs of the business

In short, the result of these interviews should be *preliminary retention* periods for each series, retention

periods that must be legally researched and analyzed further before final retention decisions are made.

Principle No. 5: Solicit Data from Applications Developers by Questionnaire

Although the interview method of gathering data from applications developers and end users is, nearly always, the best methodology for collecting high-quality data to produce good electronic retention schedules, conducting interviews may not always be feasible. In these cases, the records manager may have to rely on the survey approach as the method of collecting applications data. The following questions can be used to solicit the major items of information by questionnaire.

- What business process or function is performed by this application? Describe this process or function in the context of how the retention value changes during the life cycle of the records.
- Has any provision been made to flag or identify inactive records in the application? If yes, describe.
- Are any inactive records routinely archived or otherwise deleted or purged from this application? If yes, describe and indicate when this activity occurs.
- Are records in this application required for tax or other legal/audit purposes? If yes, describe.
- Is this application scheduled for conversion to another platform/system? If yes, describe.
- What percentage of inactive records would you estimate is in this application?

• Please share any opinions concerning how long you believe inactive records from this application should be retained and elaborate on the reason(s) justifying these opinions.

The survey method does not preclude conducting personal interviews. On the contrary, this type of survey instrument can be used as a first step in the data gathering process, with subsequent interviews with applications developers to follow. A survey, however, should not be used in the place of personal interviews with end users. Conducting personal interviews with these individuals to obtain their opinions concerning the retention value of applications records is critically important in formulating good electronic retention periods.

Principle No. 6: Determine Retention Periods Based on Conceptually Sound Methodology

Although a detailed discussion concerning records retention decision-making is beyond the scope of this article, we nevertheless summarize here the main concepts relating to this process, as they are so important in developing good retention periods for electronic records (Stephens 1988). The retention value of all business information, including electronic records, should be established based on the following three principles.

• The Records Appraisal Concept. This concept holds that the retention value of business records must be established based on identifying the primary and secondary values the records possess, and then making judgments

as to when, if ever, these values expire or decline to the point where disposal of the information can be contemplated. Primary values are those reflecting the basic business purpose(s) served by the records, the reason they were created. Secondary values reflect other uses to which the information may be put during the course of their life cycle, uses that may justify continuing retention after the expiration of primary values. Administrative or operational values are usually identified as primary values. Research or historical values are generally designated as secondary values. Legal value can be either a primary or a secondary value, depending on the purpose and function of a record. A records series can (and usually does) possess several of these values simultaneously, and they may change during a record's life cycle.

• The Cost/Risk/Benefit Concept. This concept holds that the retention value of business records must be established based on the costs, risks, or benefits of retaining the records or disposing of them after varying periods of time. This concept goes further than the records appraisal concept, in that it attempts to consider the costs and risks inherent in retaining or disposing of information, not just the benefits of its usage over time. In establishing the retention value of any records series, the records manager should consider the cost to retain it versus the cost savings resulting from its disposal. Moreover, the records manager should establish whether any actual or potential risks are associated with either retention or disposal of the record and, if so, the degree of those risks. Finally, records managers should identify the benefits of retention or disposal and compare them to costs and risks to arrive at a good business decision regarding records retention.

• The Retention Options Concept. This concept holds that the retention value of business records can best be established in identifying options or alternative retention periods, and then making a decision as to the best option. Typically, the retention decisionmaker first identifies retention options at the two extremes - the shortest feasible retention period and the longest plausible retention period. At the short extreme, the retention period is so short that its adoption may be uncomfortable for the organization; at the long extreme, the retention period is clearly excessive and will result in the retention of useless information. The best retention periods will often fall somewhere between the two extremes.

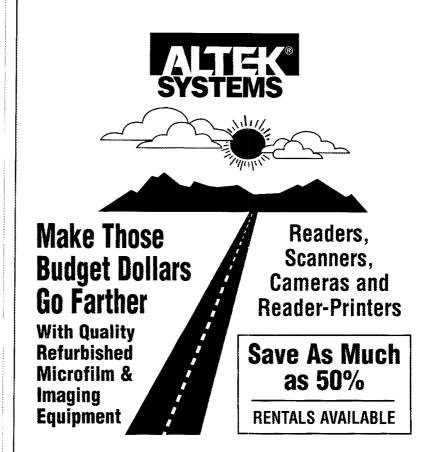
Records managers should employ any or all three conceptual approaches when making decisions concerning how long the organization should retain its electronic records. These approaches are designed to bring as much rational thinking as possible to the often-vexing question as to how long business records should be retained.

For further conceptual guidance relative to the retention decision-making process, consider the following four rules.

 Avoid the "every conceivable contingency syndrome." No records retention program should be designed to accommodate every conceivable need for information at any future time, no matter how remote the probability of the need might be. Records managers must avoid this kind of thinking in formulating any retention periods, electronic or otherwise.

2. Adopt conservative retention policies where warranted. Information should be retained if a reasonable

probability exists that it will be needed at some future time to support a legitimate business or legal requirement and if the consequences of its absence would be substantial. Where warranted, records retention policies should be conservative in the sense that they do not expose the organization to an inordinate degree of risk.



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- 3. Use shorter retention periods in a litigation-intensive environment. Many attorneys believe that old records rarely contain information helpful to the legal defense of an organization. On the contrary, such records can often be misinterpreted and can embarrass an organization or result in more serious legal difficulties. Thus, most attorneys believe that the best way to minimize the legal risks associated with records retention is to provide for their systematic disposal immediately upon expiration of their business value and any legal requirements mandating their retention. Unless litigation or a government investigation has commenced or is foreseeable, destroying records is proper (assuming that all statutory requirements have been satisfied), and it is usually in the organization's best interest to do so.
- 4. Develop a consensus among responsible parties. Retention periods are likely to be in the organization's best interest if they are based on a consensus of opinions by professionals most knowledgeable about the value of the information and the costs, risks, and benefits of its preservation or disposal after various periods of time. Responsible parties typically include the department managers having official custody of the records, the organization's legal counsel, its tax manager and/or its internal auditor, its records manager, and finally its archivist.

Principle No. 7: Construct "Total Life Cycle" Retention Periods

To achieve total *life cycle control* over electronic records, retention

periods for electronic records must be constructed to consist of the following components.

- Online retention period. An online retention period reflects the length of time the data should remain on *primary storage devices*, usually magnetic disks. This retention will usually be relatively short, a matter of days, weeks, or months seldom longer than a year or so.
- Nearline retention period. A nearline retention period reflects the length of time the data needs to remain onsite but offline, in secondary storage devices, usually optical media. This retention may also be short, a matter of months or a year or so. However, in some applications, retention will be much longer.
- Offline retention period. An offline retention period reflects the length of time the data needs to remain offline (and generally offsite), usually on magnetic tapes. Although many organizations without formal electronic records retention programs often retain these electronic records for indefinite periods of time, records managers should apply specific retention periods to them whenever possible.
- Total retention period. A total retention period reflects the length of time the data should remain in *computer-processable form*, after which it should be purged entirely from any and all storage devices supporting the system.

Principle No. 8: Determine the Total Retention Based on Access Requirements

As simple as it sounds, the total retention period for an electronic

records series depends on how long the data needs to remain in computer-processable format! If electronic records no longer need to remain in a manipulatable state (that is, the users no longer require computer access to the data), usually no justification exists for retaining them in a digital, computer-processable format. Thus, the total retention period for electronic records would be determined by this requirement.

Legal/regulatory or other business needs may justify further retention beyond the time the electronic version of the records must be retained; however, these needs can usually be satisfied by transferring or migrating the data onto an alternative medium for ongoing retention.

Principle No. 9: Determine Whether Data Migration and Deletion Occur Automatically

Having constructed the retention periods for electronic records at the several stages of the data life cycle, the records manager must determine the manner in which they will be implemented. Here, we refer to whether the migration of data from primary to other storage devices occurs automatically as controlled by the system software, or whether any human intervention is required to effectuate this migration. Further, and even more important, the records manager must determine whether the purging and deletion of data from all storage media, as authorized by the total retention periods, occur automatically or whether human intervention is required to effectuate these data destruction actions. The following factors are relevant to these determinations.

- If hierarchical storage management (HSM) software has been installed in the computing environment, the migration of data from primary to other media can or may occur automatically, without human intervention, as this functionality usually exists in this class of software.
- If HSM software has not been installed to manage the data migration process, human intervention will be required.
- In either case, the retention period for each electronic records series should be designed to reflect the times and/or conditions under which the data migration occurs.
- In all cases, deciding whether data deletion (expungement from the system at the conclusion of the total retention period) should occur with or without human intervention is essential. These determinations should be expressed in writing, either in the

electronic records retention schedule itself, or in supporting procedures.

Many organizations make determinations as to whether human intervention is required in the data deletion process based on whether the applications are vital or mission-critical. For nonvital data, the risks associated with effecting the purge process may be considered to be so low as to not require human intervention. On the other hand, for the organization's most vital computer data, such intervention may be considered to be a prudent procedure.

Principle No. 10: Determine the Need for Consistent Retention Periods Where Redundant Data Exist on Multiple Media

One of the most controversial and hotly debated issues relating to electronic records retention is whether, in cases in which redundant computer data exist on alternate media (e.g., hard copy printouts, or computer output microfilm), the retention period for the electronic versions of the records should be *longer, shorter,* or *consistent for all media.* Arguments for each of these three points of view are as follows:

- Retention periods for redundant data should be consistent for all media. The main argument supporting this perspective is that, from a legal point of view, an organization's retention policies are easier to defend when they are as uniform and consistent as possible. Whether information resides on paper, microfilm, or electronic media is unimportant. If the same appraisal criteria is uniformly applied, each type of record will be retained for the same length of time.
- Retention periods for electronic media will/should usually be longer than for other media. The main argument supporting this view is that electronic media provide a much greater degree of accessibil-

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ity for the user than either paper or microfilm. Thus, the data need to be retained on this medium for as long as user needs dictate. Paper, the least efficient medium, should be disposed of as quickly as possible.

• Retention periods for electronic records will/should usually be shorter than for other media. The main argument here is that, by its very nature, computer-based information is valuable because it is highly dynamic; it is processed and manipulated in "real time" each day in the conduct of current business operations. This characteristic usually has a relatively short life span, usually shorter than paper or microfilm, which are frozen in time and format on more durable media that is more for longer-term appropriate retention needs.

Although each of these arguments has some merit, we believe the best answer is determined by

- 1. defining the organization's requirements to retain a certain type of information
- determining the access requirements for that information and how they may change during the information life cycle
- choosing which medium can best meet these requirements during any and all phases of the life cycle. As discussed next, the retention medium may need to change during the information life cycle, particularly if the retention requirements are lengthy.

Principle No. 11: Be Highly Selective About Appraising Electronic Records as "Permanent"

The permanent retention of electronic records is one of the most important principles associated with electronic records retention. This issue concerns the archival status of electronic records – the capability and appropriateness of digital media for the permanent retention of electronic records of enduring value.

Should permanent retention periods be applied to electronic records? If so, under what circumstances should such a decision be made? The first thing to understand is that computer media used to retain electronic records and the hardware and software required to read them do not possess qualities of longevity equivalent to paper and microfilm. If an organization must retain information contained in computer records for many years, usually paper or microfilm is more practical for long-term archival needs.

Although computer tapes, disks, and other electronic storage media are constantly being improved with respect to their ability to maintain the stability and integrity of their data for long periods of time, these media cannot be read without the proper hardware and software. Because of the rapid obsolescence of computer hardware and software (service lives of less than five years are common), retaining electronic records for long periods of time is usually impractical, even though doing so may be desirable. However, the archival value of some electronic records is wholly or partially dependent on the ability to manipulate the records electronically.

We are not suggesting that records managers should never designate electronic records for permanent retention; rather, they should understand just what such a decision entails and assess the organization's capability to support this decision over many years. In most computing environments, following the principle of being *highly selective* about designating electronic records for

permanent retention will be the proper course of action.

Principle No. 12: Use COM or COLD Solutions for Lengthy Retention Requirements

For computer records having permanent or long-term retention requirements, records managers should seek to employ retention media that provide properties of stability and durability and that are cost-effective and practical to support. In many instances, computer output microfilm (COM) or computer output to laser disk (COLD) systems can best satisfy these criteria. These retention solutions should be employed at a point in the life cycle of the records at which they no longer need to remain in a computerprocessable format but still require continued retention. The following guidelines are useful for employing these solutions.

Use COLD Solutions for Medium-length Data Retention

COLD systems are often used as an archival retention solution for computer-based data. Two principal applications of this technology are relevant to electronic records retention.

COLD as a DASD Replacement

At a point in their life cycle when the data are ready to be migrated from primary storage, they can be downloaded onto optical media used in a COLD system for nearline or offline storage. In many computing environments, an organization can realize significant cost savings from using COLD to replace more expensive direct access storage device (DASD) storage.

COLD as a COM Replacement

The use of COM as a data retention medium is discussed next. Here we note that COLD systems frequently provide an excellent replace-

ment for COM-generated microfiche. Instead of printing the computer reports on COM, they can be printed on COLD. These applications are usually very popular because, among other benefits, the archival data can be searched and accessed much more easily on a digital medium such as COLD, as compared to microfilm, a photographic medium.

Although the optical platters used in COLD applications have good to excellent stability characteristics, this solution is nevertheless vulnerable to technology obsolescence, just as is any configuration of computer hardware and software. Thus, COLD systems should be regarded as providing a *medium-term solution* for an organization's data retention needs. These systems should be able to provide reliable retention for time periods ranging from *five to 10 years*.

Use COM Solutions for Long-term Data Retention

COM has been used as an archival storage solution for long-term retention of computer data since the 1960s, and it remains a very viable solution for this purpose today. If it has been properly produced and is stored under the proper environmental conditions, COM-generated microfilm can offer excellent archival properties for the *long-term* or *permanent preservation* of electronic records. The COM solution should thus be seriously considered for data retention requirements *exceeding 10 years*.

Principle No. 13: Retain E-mail Under Stringent Records Management Controls

During the past few years, electronic mail (e-mail) has supplanted hard copy letters and memos as the dominant form of intraorganizational communication. It also either has

or soon will be the dominant form of interorganizational communications because of the explosion of the Internet and its ability to serve as an e-mail carrier. Indeed, literally billions of e-mail messages fly through local- and wide-area networks and the Internet every business day.

Particularly when it is packaged as a part of groupware or other forms of electronic communications in sophisticated network environments, e-mail is many times more efficient than the paper letters and memos that preceded it. However, e-mail is not without its risks, and these risks compel that this communications medium be subjected to the most stringent records management controls. E-mail is, in fact, probably the most legally risky form of business communication for two main reasons: (1) E-mail users assume, incorrectly,

that their electronic messages are private in the same sense as telephone communications and thus are not subject to disclosure. (2) Moreover, the nature of e-mail encourages informal, "chatty" modes of expression. These two factors can make e-mail, for all its benefits, a high-risk tool for the many businesses that use it (Jacobson 1995, Cliff 1995, Middle, 1993, Stahl 1994, Woo, 1993).

Because of these risks, e-mail needs to be managed under a very stringent records management policy. A records management policy for e-mail, shown in Figure 1, is recommended for consideration.

The important retention aspects of this e-mail policy is that e-mail should be retained under a retention period that is *as short as possible*. A short retention policy is based on the

E-mail Records Management Policy

- Content "It is the policy of the company/agency that all e-mail must be as formal and businesslike as the situation dictates. The inclusion of remarks of a derogatory nature is strictly prohibited. Employees are advised that, from a legal point of view, e-mail messages are discoverable to the same extent as any other company/agency information. Moreover, employees are advised that the company/agency retains the right to access all e-mail files, just as it retains rights of access to any other company/agency property."
- Retention "The maximum retention period for all e-mail is 30 days after the message is read by its recipient, but employees are encouraged to delete the messages DAILY, immediately after reading, replying, or taking other action concerning them. All e-mail will be automatically purged upon the expiration of this retention period. If the content of an e-mail message possesses longer-term business value, employees are required to migrate the document from the e-mail system for archival storage on another platform. If it requires continuing retention in a computer-processable format, generate a hard copy printout and place it in the proper paper file for further retention, according to the approved records retention schedule."
- **Backup** "For disaster recovery purposes, e-mail will be backed up to tape for offsite security storage; however, the retention period of the e-mail data resident on these tapes will not exceed the maximum retention period for all e-mail 30 days."

Figure 1: Sample E-mail Policy

principle that e-mail is a tool to facilitate daily communications between employees for current business, not as an archival storehouse for non-current communications. Although the majority of e-mail messages are, in fact, of short-term, transitory value, employees are increasingly creating e-mail documents of long-term business value. Such messages should be managed as indicated in the policy in Figure 1.

Principle No. 14: Retain PC-based Electronic Records Based on Official Records Status

PC-based records present special records retention challenges because PC users often consider these types of electronic records as personal working files, to be used and disposed of at their discretion. This perception holds a considerable degree of truth; many PC-based records can be characterized as having nonofficial status. Thus, records managers should endeavor to manage the retention of these records based on their official or nonofficial status.

The recommended method of establishing retention periods for mainframe-based electronic records is to collect inventory data at the application level, then define the electronic records series contained within each application, and finally establish the retention periods for each series. However, for PC-based records, following this methodology is usually not practical. In most large PC-computing environments, conducting a comprehensive inventory at the application/records series levels is unrealistic because the majority of PC-based records consist of word processing documents, spreadsheet documents, and similar records, most of which are rather haphazardly organized by directory or subdirectory on hard disks or network servers. These unstructured records do not lend themselves to analysis and retention schedule development by application/records series. Thus, adopting a different approach to managing the retention of these records, one based on their status as official or nonofficial records, is necessary. A policy for PC-based records is shown in Figure 2.

Conclusion

As the records management discipline continues to make its transition from visible media to electronic media management, electronic records retention programs must occupy center stage. Indeed, electronic records retention programs for IS departments and for enterprises as a whole must be a top priority of the records management community during the next 10 or more years. These 14 principles of electronic records retention provide an excellent starting point.

Records Retention Policy for PC-based Records

- Records of Official Status If PC-based records consist of the *only copy* of documents of *official character* relating to the company/agency's business, then they possess status as official records and may not be destroyed except in accordance with the records retention schedule.
- Records of Nonofficial Status If PC-based records consist solely of electronic documents and data used to produce hard copy documents maintained in the company/agency's official files, then these electronic versions would not themselves possess status as official records and may thus be deleted at the discretion of the user. They should be destroyed as soon as they are no longer needed to produce updates or revisions to official hard copy documents, and in no event should they be retained longer than the retention period for the official versions of the record. PC users are encouraged to review directory listings of their documents weekly and to delete all unneeded documents and data from both removable (e.g., floppy disks) and nonremovable (e.g., hard disk) media.

Figure 2: Sample Retention Policy for PC-based Records

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